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EXAMINER	
NGUYEN, LINH V	
ART UNIT	PAPER NUMBER
2819	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,248	KLOMSDORF ET AL.	
	Examiner	Art Unit	
	Linh V Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 05 August 2003.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-25 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3,5-10,12-23 and 25 is/are rejected.

7)☒ Claim(s) 4,11 and 24 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on 05 August 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 08/05/03.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 3, 5 – 9, 15 – 18, 20, 21, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipate by Sourour et al. Pub.No.: 2002/0098812.

Regarding to claim 1, Fig. 1 of Sourour et al. discloses a transmitter circuit comprising: a phase shifter (12) operatively responsive to phase shift compensation (compensation signal) and timing data (Mode indicator signal) to phase shift input data (Baseband Signal) by a compensation phase shift amount (30) to produce a phase shifted signal (42); and an amplifier (16) coupled to an output of the phase shifter (42) to receive the phase shifted signal, wherein the amplifier causes a predicted phase change (44) to the received phase shifted signal in response to a control signal (Mode control signal), wherein the phase shifter (12) receives the phase shift compensation (compensation signal) and timing data (mode indicator signal) and the amplifier receives the control signal (Mode control signal) at a predefined relative time (1 , 2) such that the compensation phase shift in the phase shifted signal compensates for the predicted phase change in the amplifier to produce an RF output signal with reduced phase discontinuity (Fig. 3).

Regarding to claim 2, Fig. 10 of Sourour et al. further including a phase compensation (46) and timing control circuit (this is inherent, because Fig. 1 or 10 of Sourour et al. disclose a timing signal to synchronizing the mode of phase shifter 12 and amplifier 61, therefore the timing control circuit must be intrinsic to Fig. 1 or 10 to generate the timing signal) operatively coupled to the amplifier (16) to provide the control signal (Mode signal), and operatively coupled to the phase shifter (12) to provide the phase shift compensation (30) and timing data at the predefined relative time (1, 2) such that the compensation phase shift in the phase shifted signal compensates for the predicted phase change to produce the RF output signal with the reduced phase discontinuity (Fig. 3).

Regarding to claim 3, wherein the phase-shifted signal reduces at least one of a transient phase change of the RF output signal and a steady state phase change of the RF output signal (Fig. 2).

Regarding to claim 5, wherein the compensation phase shift in the phase-shifted signal includes a programmable phase shift compensation signal (page 2 paragraph 0023).

Regarding to claim 6, wherein the predefined relative time (1, 2) corresponds to at least one of: a fixed time period, an exponential time period, a period of time before a data burst, a period of time after a data burst, and a programmable amount of time (page 2 paragraph 0023).

Regarding to claim, wherein the control signal includes at least a programmable phase shift compensation signal (page 2 paragraph 0023).

Regarding to claim 8, wherein the phase shifter (12) is operatively responsive to phase shift compensation (Compensation Signal) and timing removal data (Mode signal) to remove the phase shift from the input data (Baseband signal), wherein the phase shifter (12) receives the phase shift compensation (Compensation signal) and timing removal data (mode indicator signal) and the amplifier (16) receives a remove control signal (Mode signal) at a predefined relative removal time (1, 2).

Regarding to claim 9, Fig. 6 of Sourour et al. further disclose wherein the phase compensation and timing control circuit includes: processing circuitry (102) ; a storage unit (104) coupled to the processing circuitry for storing one or more sets of instructions for execution by the processing circuitry including: presorted instructions to receive the system based circuit activation data; and presorted instructions operatively responsive to the system based activation data to generate the phase shift compensation and timing signal and the control signal (paragraph 0031 on page 3).

Regarding to claim 15, Fig. 1 of Sourour et al. disclose a transmitter circuit comprising: a phase compensation (Compensation signal) and timing control circuit (Mode indicator Signal to synchronizing with mode control signal) operatively responsive to system based circuit activation data (Fig. 6) to produce phase shift compensation and timing data and a control signal (Mode control Signal); a phase shifter (12) operatively responsive to the phase shift compensation and timing data to phase shift input data (Baseband Signal) by a compensation phase shift to produce a phase shifted signal (output of 12);

a pulse shaper (14) operatively coupled to an output of the phase shifter to receive the phase shifted signal, and to responsively provide shaped and shifted input data (42); and an amplifier (16) operatively coupled to an output of the pulse shaper to produce the RF output signal (22) in response to the shaped and shifted input data and the control signal, wherein the amplifier causes a predicted phase change to the shaped and shifted input data in response to the control signal (Mode control Signal); wherein the phase shifter (12) receives the phase shift compensation and timing data and the amplifier (16) receives the control data at a predefined relative time (1, 2) such that the compensation phase shift in the shaped and shifted input data compensates for the predicted phase change in the amplifier to produce an RF output signal with a reduced phase discontinuity (Fig. 3).

Regarding to claim 16, Fig. 7 of Sourour et al. further discloses wherein the phase compensation and timing control circuit includes: a processing circuit (46) to provide phase data to the phase shifter; and a timing control circuit operative to provide a timing signal (32) to the phase shifter and to provide the control signal (40) to the amplifier, wherein the phase shifter is operative to produce phase shifted in-phase data (I) and phase shifted quadrature (Q) data in response to the phase data, the timing signal (32) in-phase data and quadrature data, wherein the pulse shaper (14) is operatively responsive to the phase shifted in-phase data and the phase shifted quadrature data to provide shaped in-phase data and shaped quadrature data (Fig. 7).

Regarding to claim 17, Fig. 6 of Sourour et al. further discloses an in-phase digital to analog converter (108) operatively responsive to the shaped in-phase data to produce an in-phase signal; a quadrature digital to analog (108) converter operatively responsive to the shaped quadrature data to produce a quadrature signal; and a modulator (14) operatively responsive to the in-phase signal and the quadrature signal to provide an RF modulated signal to the amplifier (16).

Regarding to claim 18, Fig. 6 of Sourour further discloses wherein the phase compensation and timing control circuit includes: processing circuitry (102); a storage unit (104) coupled to the processing circuitry for storing one or more sets of instructions for execution by the processing circuitry including: presorted instructions to receive the system based circuit activation data; and presorted instructions operatively responsive to the system based activation data to generate the phase shift compensation and timing signal and the control signal (page 3 paragraph 0031).

Regarding to claim 20, Fig. 1 of Sourour et al. a wireless device (paragraph 0006 on page 1) comprising: a phase shifter (12) operatively responsive to phase shift compensation (Compensation Signal) and timing data (Mode indicator signal) to phase shift input data (Baseband signal) by a compensation phase shift (30) to produce a phase-shifted signal (42); an amplifier coupled to an output (42) of the phase shifter to receive the phase shifted signal, wherein the amplifier causes a predicted phase change to the received phase shifted signal (Fig. 3) in response to a control signal (Mode

control signal), wherein the phase shifter receives the phase shift compensation and timing data, and the amplifier receives the control signal at a predefined relative time (1, 2) such that the compensation phase shift in the phase shifted signal compensates for the predicted phase change in the amplifier to produce an RF output signal with a reduced phase discontinuity (Fig. 3);

a base band processor to produce the input data (Fig. 6 (102)); and

an antenna (Fig. 6 (18)) operatively responsive to the RF output signal to transmit the RF output signal.

Regarding to claim 21, Fig. 1 of Sourour further including a phase compensation and timing control circuit (This is inherent to Sourour et al., because the compensation and timing circuit must be intrinsic to order to provides compensation and timing signal data in fig. 1) operatively coupled to the amplifier (16) to provide the control signal (Mode Signal) and operatively coupled to the phase shifter to provide the phase shift compensation (Compensation Signal) and timing data (Mode Signal) at the predefined relative time (1, 2) such that the compensation phase shift in the phase shifted signal compensates for the predicted phase change to produce the RF output signal with the reduced predicted phase change (Fig. 3).

Regarding to claim 22, Fig. 1 of Sourour et al. discloses an amplification method comprising: producing phase shift compensation (Compensation Signal) and timing data (Mode indicator Signal) and a control signal (Mode Control Signal) at a predefined relative time (1, 2) in response to system based circuit activation data (Fig. 6, 7); phase shifting input data (Baseband signal) by a

compensation phase change (30) in response to the phase shift compensation and timing data to produce a phase shifted signal (42); and providing the control signal at the predefined relative time (1, 2) with respect to producing the phase shift compensation and timing data to an amplifier (16) to produce an RF output signal (20); wherein the compensation phase change in the phase shifted signal reduces phase discontinuity in the R-F output signal of the amplifier (Fig. 3).

Regarding to claim 25, producing shaped and shifted input data in response to the phase-shifted signal (42); and producing the RF output signal (20) by the amplifier (16) in response to the shaped and shifted input signal.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 10, 12 – 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sourour et al. as applied to claims 1 and 22 above, and further in view of Yasuda U.S. Patent No. 5,590,155.

Regarding to claim 10 and 23, Fig. 1 of Sourour et al. as applied to claims 1 and 22 above, disclosed every aspect of the transmitter of claimed invention except for a pulse shaper operatively responsive to input data to provide shaped

input data, wherein the shaped input data corresponds to oversampled shaped input data.

Fig. 19 of Yasuda disclose a transmitter system having a pulse shaper operatively responsive to input data to provide shaped input data, wherein the shaped input data corresponds to oversampled shaped input data (Col. 8 lines 4 – 12).

Sourour et al. and Yasuda et al. are common subject matter for transmitting system having phase shifter for transmitting signal. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate oversampling and noise shaping of input signal taught by Yasudat's transmitter into the transmitter of Sourour et al. for the purpose of reducing the quantizing noise in the band, and express in-band signals at high accuracy (Yasuda, Col. 8 lines 4 – 6).

Regarding to claim 12, Sourour et al. modified by Yasuda as applied to claim 10 above and (Sourour et al., Fig. 7) further discloses wherein the pulse shaper is operatively responsive to in-phase data and quadrature data to provide shaped in-phase data (Fig. 7 (I)) and shaped quadrature data (Fig. 7 (Q)) to the phase shifter (12), wherein the phase shifter is operative to produce phase shifted in-phase data (Fig. 7 (14A)) and phase shifted quadrature data (Fig. 7 (14B)) in response to the timing signal (Fig. 7 (32)), the phase data (Fig. 7 (I, Q)) , the shaped in-phase data, and the shaped quadrature data (Fig. 7 (I, Q)).

Regarding to claim 13, Sourour et al. modified by Yasuda as applied to claim 10 above and (Sourour et al., Fig. 6) further disclose overall system having

an in-phase digital to analog converter (Fig. 6 (108)) operatively responsive to the phase shifted in-phase data to produce a phase shifted in-phase signal; a quadrature digital to analog converter (Fig. 6(108)) operatively responsive to the phase shifted quadrature data to produce a phase shifted quadrature signal; and a modulator (Fig. 6 (14)) operatively responsive to the phase shifted in-phase signal and the phase shifted quadrature signal to provide an RF modulated signal to the amplifier (16).

Regarding to claim 14, Sourour et al. modified by Yasuda as applied to claim 10 above, and (Sourour Fig. 2) further discloses, wherein the phase shifted signal reduces at least one of a transient predicted phase change of the RF output signal, and a steady state predicted phase change of the RF output signal (Fig. 2 and 3).

5. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sourour et al. as applied to claim 15 above, and further in view of Pehkonen et al. U.S. Patent No. 6,266,321.

Fig. 3 of Sourour et al. further disclose wherein the phased shifted signal includes a plurality of constellation points (page 2 paragraph 0021). However Sourour fails to disclose wherein at least one of the plurality of constellation points is replaced with a zero constellation value.

Fig. 2a of Pehkonen et al. disclose a transmitter having phase shifter (61) includes a plurality of constellation points wherein at least one of the plurality of constellation points is replaced with a zero constellation value (Fig. 3a, 3b, 3c, Col. 6 lines 13 – 35).

Sourour and Pehkonen et al. are common subject matter of phase-shifter in telecommunication. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the constellation points values teach by Pehkonen et al. into constellation points of Sourour et al for the purpose of providing the ratio of transmitter peak power to average power remain constant regardless of power different between the channel thus improving efficiency of transmitter power (Pehkonen et al., Col.6 lines 46 – 54).

Allowable Subject Matter

6. Claims 4, 11 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (571) 272-1810. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (571) 272-1812. The fax phone numbers for the organization where this application or

proceeding is assigned are (703-872-9306) for regular communications and (703-872-9306) for After Final communications.

LVN

08/16/04

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